

# COMPARISON OF BEHAVIOR BETWEEN ISLAMIC AND COMPOSITE INDEX IN INDONESIA AND MALAYSIA

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## Abstract

*This study aims to analyze whether there is difference of behavior between Islamic index (Jakarta Islamic Index (JII) and Kuala Lumpur Shariah Index (KLSI)) as well as conventional index (Jakarta Composite Index (JCI) and Kuala Lumpur Composite Index (KLCI)) in Indonesia and Malaysia. This study use Vector Auto regression (VAR) or Vector Correction Model (VECM) to respectively as certain if co integration exists. Based on the results, it shows that there is no difference of behavior between Islamic index and conventional index in Indonesia and Malaysia. It suggested that both countries make some changes in the Islamic index structure to differentiate from the conventional. For the investors should pay more attention to the inflation rate rather than the other macro economic variables, because inflation rate consistently determine these indexes.*

**Keywords:** *Investment, Sharia capital market, conventional capital market, macroeconomy*

## INTRODUCTION

Based on Ascarya (2009: 2), capital markets included direct financial market, where the invested capital can be directly used for the company's operational costs without any intermediaries, such as banks. Capital markets facilitate long-term financing for businesses and entrepreneurs by attracting a large pool of investors. These markets provide long-term capital to entrepreneurs through a series of short-term contracts (securities) with investors who may easily enter and exit the market.

Capital markets consist of primary and secondary markets. Primary markets are important to raise new capital and depend on supply of funds, whereas secondary markets make a significant contribution by facilitating the trading of existing securities. In some ways, secondary markets play an equally critical role by ensuring liquidity and fair pricing in the market and by giving valuable signals

about the security. In other words, secondary markets not only provide liquidity and low transaction costs, they also determine the prices of the securities and their associated risk on a continuous basis, incorporating relevant new information as it arrives (Iqbal and Mirakhor, 2007).

Conducive investment climate tend to be related to positive change of macroeconomic indicator. So, when the economic situation improves, the investors will invest their money in investment domain. Theoretically, when the condition of stock prices is relatively stable it is also followed by stability of macroeconomic level; hence many people will invest in stock markets (Syibly, 2007).

From conventional perspective, interest rate is connected to investment and saving. If interest rate increases, saving rate will increase and investment rate relatively decrease. On the contrary, if interest rate decreases, saving rate will decrease and investment will increase.

Therefore it can be said that motivation in saving and investing activities is determined by returns motive from both activities

Based on Islamic perspective, there are some factors which determine the investment motivation. Firstly, due to the implementation of Zakat of an individual asset at the minimum amount of Zakat (nishab) will always be subject to zakat, so this will encourage owner to manage through investment. Thereby, through investment, asset owner has the potential to maintain the number and value of its assets. Based on this argument, basically investment activity is closer to the individual behavior (investor/muzakki) on wealth or assets rather than on their deposits. In Islam, investment comes from wealth/asset rather than deposit, which in investment are bounded by the definition of the remaining portion of the net income by consumption.

Secondly, investment activities rely more on social motivation, which is assisting people who do not have capital but have the skill running the business, even by partnership (musyarakah) or by profit sharing (mudharabah). From the explanation, it is understandable that investment in Islam is not always influenced by profit factor, but also by Shari'ah factor (Shari'ah compliance) and social factor (kindness to ummah) (Errel, 2009).

Indonesia has implemented dual financial system since 1998. From that time, conventional and Islamic finance have been experiencing high growth, including Islamic capital market. Islamic capital market is one of the Islamic Financial areas which experienced high growth (Ascarya, 2009). Malaysia has been regarded as one of the committed Muslim countries towards developing a complete Islamic banking system. The system started in 1983 when the first Islamic bank (Bank Islam Malaysia

Berhad (BIMB)) commenced its operations. Since then, many measures and actions have been taken and implemented by the government leading not only towards the development of an Islamic banking system but also an Islamic stock market, Islamic insurance and Islamic pawning operations (Haron and Azmi).

As stated above those macroeconomic conditions often become investors' guidance and influence in the investors' investment decision for investing. Theoretically, Islamic capital market can be defined as capital market which applies Shari'ah principles in economic activity and avoids the prohibited issues, like *riba* (interest/usury), *maysir* (gambling) and *gharar* (speculation). It is definitely different from conventional capital market which does not apply Shari'ah principles. But the question is, is there any differences between Islamic and conventional capital markets considering that the listed companies between these indexes are the same.

Conventional capital markets have an established and long-running track record; Islamic capital markets are at a rather early stage of development so it needs more research about Islamic capital markets. This study will investigate whether there is any statistical differential behavior between Islamic and conventional index in Indonesia and Malaysia through macroeconomic variables, such as inflation rate, interest rate, money supply and exchange rate.

Here are several studies that had been conducted relating to the title. Firstly, the study by Humpe and Macmillan (2007) in their research which was conducted on the differentiation between American stock market and Japan stock market. This study stated that in American stock market data are consistent with a single cointegrating vector, where stock prices are positively related to industrial production and negatively related to both the consumer

price index (CPI) and a long term interest rate. There are insignificant (although positive) relationships between US stock prices and the money supply. In Japan stock market, they found two cointegrating vectors. They found for one vector that stock prices are influenced positively by industrial production and negatively by the money supply. For the second cointegrating vectors they found industrial production to be negatively influenced by the CPI and a long term interest rate.

Secondly, the study by Gan, *et al.* (2006), on New Zealand stock market stated that the Johansen cointegration test indicates that there exists a long run relationship between share price index (NZSE40) and the macroeconomic variables tested. The Granger-causality test result shows that the NZSE40 is not a leading indicator in New Zealand. Using innovation accounting, the Impulse Response Function (IRF) results indicate that the impact of a shock to exchange rate (EX), consumer price index (CPI), long term interest rate (LR) and gross domestic product (GDP) on the NZSE40 was consistent with other stock markets empirical results. The Forecast Error Variance Decomposition (FEVD) test results indicate that the NZSE40 could be explained by LR, short term interest rate (SR), money supply (M1) and GDP.

Thirdly, the study by Tangjitprom (2011) about the macroeconomics factors in Thailand stock market stated that the regression analysis was used to examine the relationship. The result shows macroeconomics variables can explain stock return significantly after adjusting for lags of data availability. The relationship was examined by Vector Autoregression model and Granger causality test reveal that macroeconomic variables are less important to predict future stock return whereas stock return can be used to predict macroeconomic variables. Finally, the variance decomposition technique

reveals that interest rate is the most important macroeconomic variable to explain the variance in stock return.

Fourthly, the study by Majid and Yusof (2009) a case study at Malaysian Islamic stock market stated that when interest rates rise either domestically (TBR) or internationally (FFR), the Muslim investors will buy more Shari'ah compliant stocks; thereby escalating the Islamic stock prices. Both changes in the local monetary policy variables and in the US monetary policy as measured by the changes in the FFR have a significant direct impact on the Islamic stock market behavior in Malaysia.

Fifthly, Nazwar (2008) conducted study about the influence of macroeconomic variables to Shariah stocks return in Indonesia. This study focused on Jakarta Islamic Index and stated that Certificate of Bank Indonesia (SBI) is negative and significant related on Shariah stock return in Indonesia. However, Economic Growth is positive and significant related to the Shariah stocks return in Indonesia.

Sixthly, Endri (2006) conducted study about the influence of macroeconomic variables to JSX composite return. This study which investigated Jakarta Composite Index stated that real interest rate variable and real exchange rate are significant in JSX composite return in the short run and the long run.

## RESEARCH METHOD

The research methodology used is quantitative method using vector Auto Regression or VAR is non-structural approach (opposite from structural approach, such as simultaneous equations) which describes causality relationship between variables. When the data exploration is available, the data which is not used in percentage base (%) has to be transformed into log natural (ln). Then it is tested with Unit Root Test,



in order to identify whether the data is stationary or not stationary. When the data is stationary at level, it can continue to use VAR model. But, if the data is not stationary at level, it has to be transformed at 1<sup>st</sup> difference.

If the data is stationary at 1<sup>st</sup> difference it can go through cointegration test. If there is no cointegration between the variables VAR model can only be conducted at 1<sup>st</sup> difference (VAR first difference). But, if there is cointegration between variables then VECM model can be applied on the data at level, so we can get long term and short term relations between variables (Ascarya: 2009).

### Research Operational Variable

This research using the secondary data. This research operational variables are index value of Jakarta Composite Index (JCI), index value of Jakarta Islamic Index (JII), index value of Kuala Lumpur Composite Index (KLCI), index value of Kuala Lumpur Shari'ah Index (KLSI), interest rate, exchange rate, inflation and money supply (M2). Data was collected through from websites, such as [www.bi.go.id](http://www.bi.go.id), [www.bapepam.go.id](http://www.bapepam.go.id), [www.idx.com](http://www.idx.com), [www.bnm.gov.my](http://www.bnm.gov.my), [finance.yahoo.com](http://finance.yahoo.com), [info@ftse.com](mailto:info@ftse.com) and other related institutions in Indonesia and Malaysia cover the period from January 2006 until December 2009.

### Method of Data Analysis

This study uses two (2) models. Firstly, model for comparison between Jakarta Islamic Index and Jakarta Composite Index, with variable JCI = Jakarta Composite Index, JII = Jakarta Islamic Index, SBI = Bank Indonesia Certificates, INF = inflation rate, MS = money supply (M2) and ER = IDR exchange rate to USD. Data is in monthly period starting from January 2006 until December 2009. Model equation for this study shall be as follows:

$$\ln JCI_t = \alpha_0 + \alpha_1 \ln ER_t + \alpha_2 \ln JII_t + \alpha_3 \ln INF_t + \alpha_4 \ln MS_t + \alpha_5 SBI_t + u_t \quad (1)$$

$$\ln JII_t = \alpha_0 + \alpha_1 \ln ER_t + \alpha_2 \ln JCI_t + \alpha_3 \ln INF_t + \alpha_4 SBI_t + \alpha_5 \ln MS_t + u_t \quad (2)$$

Secondly, model for differentiation between Kuala Lumpur Shari'ah Index and Kuala Lumpur Composite Index, with variable KLCI = Kuala Lumpur Composite Index, KLSI = Kuala Lumpur Shari'ah Index, OPR = overnight policy rate, INF = inflation rate, MS = money supply (M2) and ER = MYR exchange rate to USD. Data is monthly period starting from January 2006 until December 2009. Model equation for this study shall be as follows:

$$\ln KLCI_t = \alpha_0 + \alpha_1 \ln ER_t + \alpha_2 \ln KLSI_t + \alpha_3 \ln INF_t + \alpha_4 \ln MS_t + \alpha_5 OPR_t + u_t \quad (3)$$

$$\ln KLSI_t = \alpha_0 + \alpha_1 \ln ER_t + \alpha_2 \ln KLCI_t + \alpha_3 \ln INF_t + \alpha_4 OPR_t + \alpha_5 \ln MS_t + u_t \quad (4)$$

### Stationary Data Test

Augmented Dickey Fuller (ADF), Dickey Fuller GLS, or Phillips-Perron (PP) is the test type which used in unit root test by using 5% MacKinnon critical value. If ADF value smaller than 5% MacKinnon critical value, it can be concluded that the data is stationary (do not contain unit root) (Ascarya, 2008: 11).

### Lag Optimal Test

Examination of length lag optimal is very good for eliminating the problem of autocorrelation in VAR system. By using this test, it expected there is no autocorrelation problem. Determination of optimal lag determined by short lag by using Schwarz Criterion (SC), Akaike Info Criterion (AIC), or Hannan-Quin Criterion (HQ) (Ascarya, 2008: 11).

## Cointegration Test

This test is conducted in order to obtain long term relation between variables which have fulfilled conditions during integrate process when where all variables are stationer at same degree that is 1 I(1). Long term information obtains by determining cointegration rank to know how much equation system which can explain from overall existing system (Ascarya, 2008: 12).

## Vector Error Correction Model (VECM)

VECM represents form of VAR which is restricted. This additional restricts have to be given because the existence form of data which do not stationer but cointegrating. Then VECM exploit information of restricted cointegrating into its specification. Therefore VECM often conceived as VAR design for non-stationer series which has cointegrating relation. (Arsana, 2004: 5).

## RESULT & ANALYSIS

As a first step, stationary data test or unit root test for the Indonesia and Malaysia dataset. In Indonesia model, the data majority stationary at first difference, except money supply (MS) which is stationary at level and first difference. In Malaysia model, all data stationary only at first difference. Then it is concluded that the data is stationary (do not contain unit root) (see table 1 and 2). These results are supportive with the previous study (see Gan, *et al* 2006).

Second step is stability test of VAR model. From both models we got the same maximum lags but different modulus. All the equations are stable in lag 5 (see table 3). Third step is lag optimum test. From these results it showed for JCI and JII equations experiencing an optimum point at lag 2. Meanwhile, KLCI and KLSI equations experiencing an optimum point at lag 1 (see table 4).

Table 1. Stationary Data Test in Indonesia Model

Variables	ADF Value		5% MacKinnon Critical Value	
	Level	1 <sup>st</sup> difference	Level	1 <sup>st</sup> difference
LNJCI	-1.991878	<b>-4.500397</b>	-3.510740	-1.948140
LNJII	-1.952897	<b>-4.439050</b>	-3.510740	-1.948140
LNER	-1.942464	<b>-5.944460</b>	-3.508508	-1.948313
SBI	-2.638937	<b>-2.814527</b>	-3.510740	-1.948140
LNINF	-1.858377	<b>-2.408261</b>	-3.510740	-1.948140
LNMS	<b>-4.689334</b>	<b>-7.780560</b>	-3.526609	-2.926622

Note: Boldface indicates that the data is stationary at 5% MacKinnon critical value.

Table 2. Stationary Data Test in Malaysia Model

Variables	ADF Value		5% MacKinnon Critical Value	
	Level	1 <sup>st</sup> difference	Level	1 <sup>st</sup> difference
LNKLCI	-2.273003	<b>-4.971549</b>	-3.515523	-1.948140
LNKLSI	-2.341815	<b>-4.916485</b>	-3.515523	-1.948140
LNER	-1.622905	<b>-5.736729</b>	-3.508508	-1.948140
OPR	-2.127919	<b>-3.007147</b>	-3.513075	-1.948313
LNINF	-2.458254	<b>-4.055801</b>	-3.510740	-1.948140
LNMS	-2.332279	<b>-3.814176</b>	-3.510740	-1.948140

Note: Boldface indicates that the data is stationary at 5% MacKinnon critical value.

Table 3. Stability Test of VAR Model

Equations	Modulus	Lag Max
JCI	0.206460 - 0.954006	5
JII	0.206460 - 0.954006	5
KLCI	0.311764 - 0.973933	5
KLSI	0.311764 - 0.973933	5

Table 4. Lag Optimum Test

Lag	JCI	JII	KLCI	KLSI
0	-23.51753	-23.51753	-31.10424	-31.10424
1	-24.10266	-24.10266	<b>-31.25939*</b>	<b>-31.25939*</b>
2	<b>-24.37291*</b>	<b>-24.37291*</b>	-31.00796	-31.00796
3	-24.03075	-24.03075	-30.97044	-30.97044

Note: Boldface and asterisk (\*) indicates the smallest AIC.

Fourth step is correlation test. The results shows that for all equations the majority of correlation values between variables are less than 0.2. Therefore our results, based on econometric theory, are free from correlation value and does not require causality test.

Fifth step is cointegration test. The result based on trace statistic shown that

in Indonesia model indicates three (3) cointegrating equations at the 5% level and two (2) cointegrating equations at the 1% level (see table 5). The result based on trace statistic shown that in Malaysia model indicates one (1) cointegrating equations at the both 5% level and 1% level (see table 6), so these two models can continue to VECM analysis.

Table 5. Cointegration Test in Indonesia Model

JCI	Critical Value 0.05	Critical Value 0.01	JII	Critical Value 0.05	Critical Value 0.01
None**	<b>94.15</b>	<b>103.18</b>	None**	<b>94.15</b>	<b>103.18</b>
At most 1**	<b>68.52</b>	<b>76.07</b>	At most 1**	<b>68.52</b>	<b>76.07</b>
At most 2*	<b>47.21</b>	54.46	At most 2*	<b>47.21</b>	54.46
At most 3	29.68	35.65	At most 3	29.68	35.65
At most 4	15.41	20.04	At most 4	15.41	20.04
At most 5	3.76	6.65	At most 5	3.76	6.65

Note: Boldface and asterisk (\*) indicates the amount of cointegration.

Table 6. Cointegration Test in Malaysia Model

KLCI	Critical Value 0.05	Critical Value 0.01	KLSI	Critical Value 0.05	Critical Value 0.01
None**	<b>94.15</b>	<b>103.18</b>	None**	<b>94.15</b>	<b>103.18</b>
At most 1	68.52	76.07	At most 1	68.52	76.07
At most 2	47.21	54.46	At most 2	47.21	54.46
At most 3	29.68	35.65	At most 3	29.68	35.65
At most 4	15.41	20.04	At most 4	15.41	20.04
At most 5	3.76	6.65	At most 5	3.76	6.65

Note: Boldface and asterisk (\*) indicates the amount of cointegration.

Table 7. VECM in JCI Equation

SHORT RUN		
Variables	Coefficient	T-statistic
CointEq1	-2.521650	<b>[-7.22799]</b>
D(LNJCI(-1))	1.456894	<b>[ 2.93625]</b>
D(LNJCI(-2))	1.388018	<b>[ 2.92039]</b>
D(LNER(-1))	0.443269	[ 1.32858]
D(LNER(-2))	0.416423	[ 1.17682]
D(LNJII(-1))	-0.934330	<b>[-2.13878]</b>
D(LNJII(-2))	-1.002427	<b>[-2.50518]</b>
D(LNINF(-1))	-2.492932	[-1.18329]
D(LNINF(-2))	6.112206	<b>[ 2.48011]</b>
D(LNMS(-1))	-0.436963	[-0.69568]
D(LNMS(-2))	0.582397	[ 1.02769]
D(SBI(-1))	0.085538	<b>[ 2.49316]</b>
D(SBI(-2))	0.116484	<b>[ 2.90700]</b>
LONG RUN		
LNER(-1)	0.090064	[-0.67978]
LNJII(-1)	0.659995	<b>[-18.2267]</b>
LNINF(-1)	-1.423981	<b>[ 3.80598]</b>
LNMS(-1)	0.601463	<b>[-2.80254]</b>
SBI(-1)	-0.045329	<b>[ 7.13572]</b>
C	1.951482	-

Note: Boldface indicates that the data is significant (>1.96).

Sixth step is vector error correction model (VECM). Firstly, VECM analysis in short run and long run in JCI equation (see table 7). In the short run, the following variables JCI(-1), JCI(-2), JII(-

1), JII(-2), INF(-2), SBI(-1) and SBI(-2) are significant based on JCI. In the long run, the following variables JII, INF, MS and SBI are significant based on JCI.

Table 8. VECM in JII Equation

SHORT RUN		
Variable	Coefficient	T-statistic
CointEq1	1.636451	<b>[ 5.90869]</b>
D(LNJII(-1))	-0.845381	[-1.60885]
D(LNJII(-2))	-0.661362	[-1.37411]
D(LNER(-1))	0.471958	[ 1.17603]
D(LNER(-2))	0.230483	[ 0.54151]
D(LNJCI(-1))	1.319015	<b>[ 2.21009]</b>
D(LNJCI(-2))	0.966741	[ 1.69103]
D(LNINF(-1))	-3.034664	[-1.19753]
D(LNINF(-2))	4.829635	[ 1.62924]
D(SBI(-1))	0.075906	[ 1.83935]
D(SBI(-2))	0.118407	<b>[ 2.45672]</b>
D(LNMS(-1))	-0.539045	[-0.71349]
D(LNMS(-2))	1.043396	[ 1.53069]
LONG RUN		
LNER(-1)	-0.136462	[ 0.64140]
LNJCI(-1)	1.515164	<b>[-21.3997]</b>
LNINF(-1)	2.157564	<b>[-3.79919]</b>
SBI(-1)	0.068681	<b>[-6.47465]</b>
LNMS(-1)	-0.911315	<b>[ 2.79123]</b>
C	-2.956814	-

Note: Boldface indicates that the data is significant (>1.96).



Secondly, VECM analysis in short run and long run in JII equation (see table 8). In the short run, the following variables JCI(-1) and SBI(-2) are significant based on JII. In the long run, the following variables JCI, INF, SBI and MS are significant based on JII.

Thirdly, VECM analysis in short run and long run in KLCI equation (see table 9). In the short run, only variable ER(-1) is significant based on KLCI. In

the long run, the following variables ER, KLSI, INF, MS and OPR are significant based on KLCI.

Fourthly, VECM analysis in short run and long run in KLSI equation (see table 10). In the short run, only variable ER(-1) is significant based on KLSI. In the long run, the following variables ER, KLCI, INF, OPR and MS are significant based on KLSI.

Table 9. VECM in KLCI Equation

SHORT RUN		
Variable	Coefficient	T-statistic
CointEq1	-0.594942	<b>[-2.32017]</b>
D(LNKLCI(-1))	0.780150	[ 0.57492]
D(LNER(-1))	-1.387972	<b>[-2.65050]</b>
D(LNKLSI(-1))	-0.667374	[-0.52810]
D(LNINF(-1))	1.236015	[ 0.93462]
D(LNMS(-1))	-1.196389	[-1.80825]
D(OPR(-1))	0.026039	[ 0.36565]
LONG RUN		
LNER(-1)	1.131709	<b>[-4.47767]</b>
LNKLSI(-1)	0.847198	<b>[-19.7163]</b>
LNINF(-1)	-3.173802	<b>[ 7.13054]</b>
LNMS(-1)	1.375213	<b>[-7.52627]</b>
OPR(-1)	0.096210	<b>[-5.95199]</b>
C	-6.083788	-

Note: Boldface indicates that the data is significant (>1.96).

Table 10. VECM in KLSI Equation

SHORT RUN		
Variable	Coefficient	T-statistic
CointEq1	0.527546	<b>[ 2.28074]</b>
D(LNKLSI(-1))	-0.696096	[-0.51733]
D(LNER(-1))	-1.467733	<b>[-2.63238]</b>
D(LNKLCI(-1))	0.840519	[ 0.58174]
D(LNINF(-1))	1.425608	[ 1.01243]
D(OPR(-1))	0.028797	[ 0.37979]
D(LNMS(-1))	-1.287892	[-1.82818]
LONG RUN		
LNER(-1)	-1.335826	<b>[ 4.48849]</b>
LNKLCI(-1)	1.180362	<b>[-21.5731]</b>
LNINF(-1)	3.746235	<b>[-7.13683]</b>
OPR(-1)	-0.113563	<b>[ 5.95756]</b>
LNMS(-1)	-1.623249	<b>[ 7.53662]</b>
C	7.181071	-

Note: Boldface indicates that the data is significant (>1.96).



Seventhly, impulse response function (IRF) analysis. From these graphs (see figure 1) it shows that ER and MS are positive and fluctuates to the JCI and JII. The impacts of a shock from ER to the index is when dollar currency appreciated against rupiah, leading to increase of exports commodity, because the domestic goods become cheaper and will decrease import commodity as foreign goods are more expensive. By decreasing the imports commodity, it is expected to increase the demand for local production which ultimately improves the balance of payments. This will increase investment level. These results are supportive with the previous study (see Gan, *et al* 2006, Majid and Yusof 2009, Endri 2006).

The impacts of a shock from MS is when deflation happens, the government will increase the money supply by buying the securities. Money supply will increase if the central bank purchases the securities, therefore the existing reserves on commerce bank will increase. With excess reserves, those banks can give loans to be invested and the country's economic activity will increase.

JII is also positive and fluctuates to the JCI. The impacts of a shock is if the value of JII increase, the value of JCI also increase. This happens because all the companies which are listed on the Shariah index are also listed in the conventional

index. So, all the movements in the Shariah index also affect the conventional index. This is contrary with JCI is negative and fluctuate to the JII.

Variable INF and SBI are negative and fluctuates to the JCI and JII. The impacts of a shock from INF is a positive signal for the investors, because declining inflation, will make production cost cheaper and cause manufacturers to produce more goods. Producers will earn bigger profits and have surplus funds investment.

The impacts of a shock from SBI is a positive signal to investors, with the decline of interest rates investors will choose to invest their money due to the possibility of gaining a return greater than the interest cost to be paid. Under this circumstance investors will earn the profit.

From these graphs (see figure 2) it shows that KLSI is positive but permanent to the KLCI and stabilized at the 19<sup>th</sup> period. The impacts of a shock is if the value of KLSI increase, the value of KLCI also increase. This happens because all the companies which are listed on the Shariah index are also listed in the conventional index. So, all the movements in the Shariah index also affect the conventional index. This is contrary with KLCI is negative but permanent to the KLSI and stabilized at the 15<sup>th</sup> period.

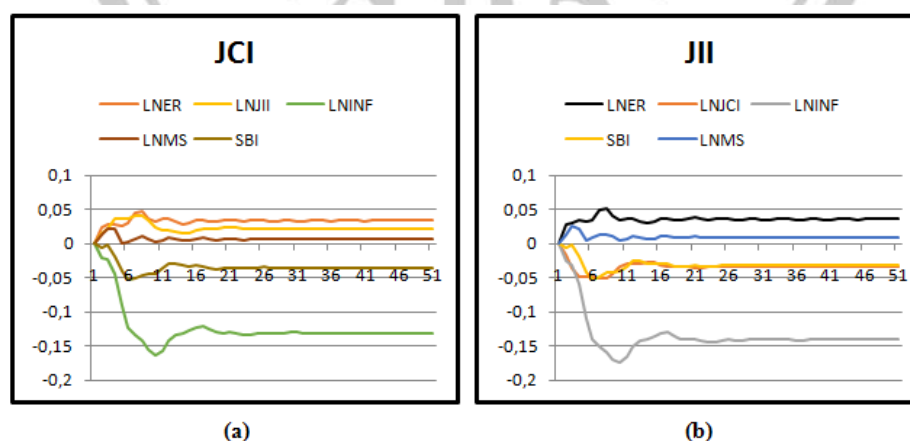


Figure 1. Graph JCI and JII Response against Variables

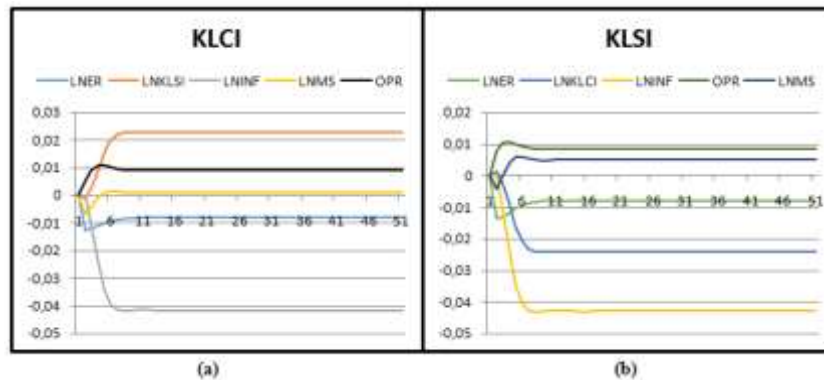


Figure 2. Graph KLCI and KLSI Response against Variables

MS is positive and permanent to the KLCI, it stabilized at the 20<sup>th</sup> period and to the KLSI, it stabilized at the 20<sup>th</sup> period. The impacts of a shock is when deflation happens, the government will increase the money supply by buying the securities. Money supply will increase if the central bank purchases the securities, therefore the existing reserves on commerce bank will increase. With excess reserves, those banks can give loans to be invested and the country's economic activity will increase

OPR is positive and permanent based on KLCI, it stabilized at the 16<sup>th</sup> period and to the KLSI, it stabilized at the 16<sup>th</sup> period. The impacts of a shock is the increase of interest rates, the possibility of gaining the profits is smaller than the interest rate. In fact, it is better for investors to lend their money through savings. But this does not eliminate the investor's enthusiasm to invest.

ER is negative and permanent to the KLCI, it stabilized at the 12<sup>th</sup> period and to the KLSI, it stabilized at the 15<sup>th</sup> period. The impacts of a shock from ER to the index is when ringgit appreciates against dollar, leading to decline of exports commodity because the price of domestic goods become more expensive than the price of imported goods, this has tendency to increase the imported commodity. This is not eliminating the investor's enthusiasm for having the investment.

INF is negative but permanent to the KLCI, it stabilized at the 16<sup>th</sup> period and to the KLSI, it stabilized at the 16<sup>th</sup> period. The impacts of a shock is a positive signal for the investors, because declining inflation, will make production cost cheaper and cause manufacturers to produce more goods. Producers will earn bigger profits and have surplus funds investment.

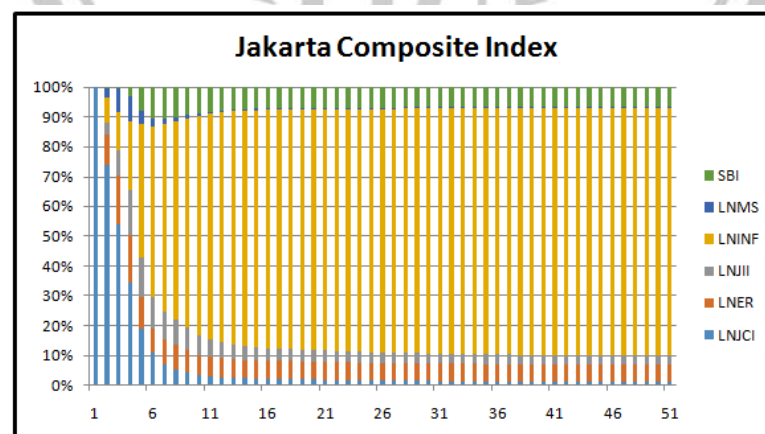


figure 3. Graph FEVD Behaviors JCI against the Variables

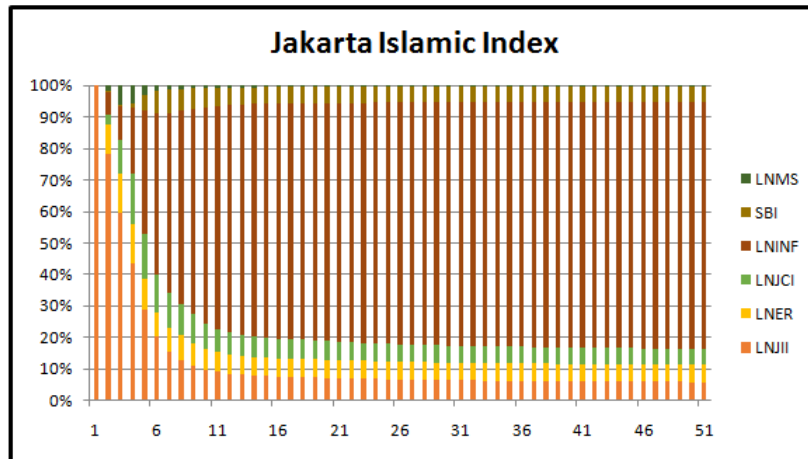


figure 4. Graph FEVD Behaviors JII against the Variables

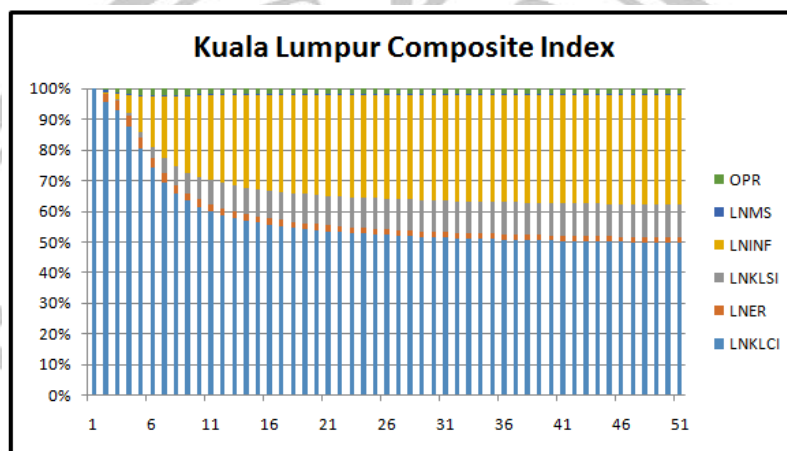


figure 5. Graph FEVD Behaviors KLCI against the Variables

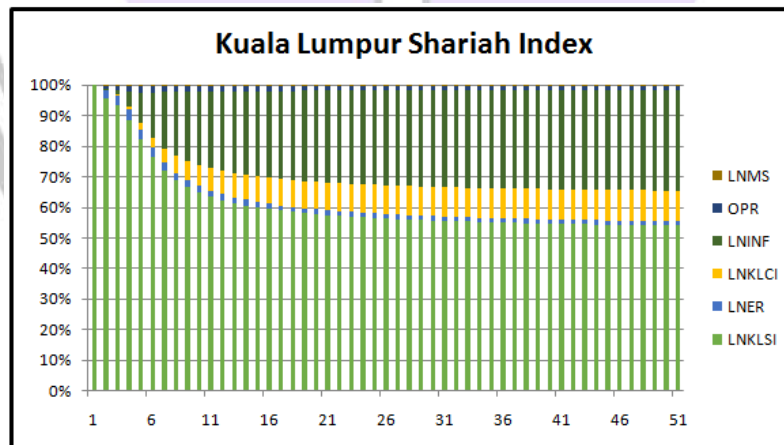


figure 6. Graph 6 FEVD Behaviors KLSI against the Variables

Eighthly, forecast error variance decomposition (FEVD) Analysis. From the graph (see figure 3) it is showed that from all the existing macro variables, MS is the only variable which does not have significant contribution to the fluctuations

in JCI. Since there is relatively large contribution of each variable, it can be said that the JCI is significantly affected by macroeconomic variables. It also happens in JII (see figure 4) KLCI (see figure 5) and KLSI (see figure 6).



From the empirical results it can be concluded that the behavior between conventional index and Shariah index are identical, it is because the influence between variables in these two indices are also identical and the movement of these two stock market indices also move in the same pattern. So, it can be said that there is no difference behavior between Shariah index (Jakarta Islamic Index and Kuala Lumpur Shariah Index) and conventional index (Jakarta Composite Index and Kuala Lumpur Composite Index) in dual financial system.

If it is seen from the principles, it should be proper way to do the investment compared with other Islamic financial institutions. Because between the surplus sector (*sahibul maal*) and deficit sector (*mudharib*) have to directly meet. Syibly (2007) states that procedures in the buying and selling of shares is that each company has certain shares quota in stock market and give authority to the agent to make deal of its shares. The task of the agency is to bring companies to the potential investors and not to make any transaction directly through the agency.

Identical behavior of both stock markets indicates that the speculative practices and other practices that are forbidden by Islam may still apply in Shariah index, and that requires making the regulations in such a way to make these practices become unattractive. Therefore, investment in this index should be done selectively and very carefully, so the conducted transactions do not deviate from Shariah (Syibly, 2007).

On JII the list will be evaluated every 6 months, i.e. every January and June. While on KLSI the list is updated twice a year and released on the last Friday of May and November. If the company changes its business line into non-Shariah Compliant business, automatically the company will be removed from this index which later on will be replaced

by another company which is in the business lines in accordance with Shariah. From this, it can be said that the company which was listed in this Shariah index is not a company which from early beginning wanted investments based on Shariah compliant securities

## CONCLUSIONS & SUGGESTIONS

### Conclusions

Results of IRF test at JCI equation indicate that the effect of the shock from the following variables ER, JII and MS are positive and fluctuate to the JCI. Besides, the effect of the shock from the following variables INF and SBI are negative and fluctuate to the JCI. Results of IRF test at JII equation the effect of the shock from the following variables ER and MS are positive and fluctuate to the JII. Besides, the effect of the shock from the following variables JCI, INF and SBI are negative and fluctuate to the JII.

Results of IRF test at KLCI equation, indicate that the effect of the shock from the following variables KLSI, MS and OPR are positive and permanent to the KLCI. Besides, the effect of the shock from the following variables ER and INF are negative and permanent to the KLCI. At KLSI equation the effect OPR and MS are positive and permanent to the KLSI. Besides, the effect of the shock from the following variables ER, KLCI and INF are negative and permanent to the KLSI.

Result of FEVD test at JCI equation, is indicates that JCI could be explained by INF, SBI, ER and JII. At JII equation, it indicates that JII could be explained by INF, JII, ER, JCI, and SBI. Result of FEVD test at KLCI equation, is indicates that KLCI could be explained by KLCI, INF and KLSI. At KLSI equation, it indicates that KLSI could be explained by KLSI, INF and KLCI.

From the empirical results it can be concluded that the behavior between

conventional index and Shariah index are identical, it is because the influence between variables in these two indices are also identical and the movement of these two stock market indices also move in the same pattern. So, it can be said that there is no differences in behavior between Shariah index (Jakarta Islamic Index and Kuala Lumpur Shariah Index) and conventional index (Jakarta Composite Index and Kuala Lumpur Composite Index) in dual financial system.

### Suggestions

In the conventional index equation (JCI and KLCI) the VECM results showed stability of the long run relationship. But, in the Islamic index equation (JII and KLSI) the VECM results showed instability long run relationship, it has the possibility that the variables and data time series which is used in this study is not perfect, it is suggested that, other variables and methods could be used in future studies.

The IRF results showed that there are no differences in variable impulse response between the JCI and JII. It also happened between KLCI and KLSI. It is suggested to make some changes in Islamic index structure. Change in Islamic index structure can be done by improving Shariah aspects at the product/service with a variety of strategies, firstly, correcting the existing regulation and eliminate speculation and other practices that are prohibited under Islamic Shariah in Islamic stock market. Secondly, establishment of tight Shariah compliance aspects for companies which are listed in the Islamic index.

The FEVD results showed that in general, the JCI, JII, KLCI and KLSI are consistently determined by inflation rate index. The results suggest for the investors who are interested in investing in Indonesia or Malaysia should pay more attention to the inflation rate rather than the other macroeconomic variables

because it is expressed that the fundamental shock of good prices have more contribution in influencing investors' decisions to invest in these indexes.

In addition, the need for a deep understanding and competence by the human resources of Islamic Economics and Finances both regulators, scholars and practitioners about the principles and practices based on Shariah compliance in the Islamic stock market to reduce practices prohibited by Shariah.

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